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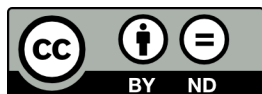
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Mobile Open Social Learning for Languages (MOSL4L)


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Abstract: An extensive literature exists on how to help students learn languages. The learning process is particularly challenging since it combines different types of knowledge and skills into a dual process of comprehension and production, using both oral and written modalities. Networked technology has led to the emergence of different types of learning that can be applied to languages. In this article three of these types are highlighted as being particularly useful for language learning, as can be seen by their impact in the literature, namely mobile, open and social learning. After an analysis of each one, a proposal is made to combine them into a single framework called Mobile Open Social Learning for Languages (or MOSL4L). It is subsequently characterized using Activity Theory and some suggestions are made for establishing a rubric that could enable language learning scenarios to be analyzed in terms of the constituent parts that define their nature and enable the causal relations with learning to be highlighted.

Keywords: MALL, Mobile learning, Open learning, Social learning, MOSL4L

Categories: H.0., H.1

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1 Introduction

As technology becomes more mobile, pervasive and networked, it is natural that we use it for our learning in a similar way as we do for our other needs (e.g., [García Laborda, Magal Royo, Litzler and Gimenez Lopez, 14]). In this article, the authors focus on three types of learning that both our experience and the literature suggest are particularly useful for language learning, namely mobile, open and social learning [Drakidou, Pareja and Read, 18]. It is not a case of trying to argue that there are only three types of learning, or three dimensions that can be used to characterize it in general, since there are potentially an infinite number, just that these are three socially, culturally, and educationally relevant and available ones that are already being used extensively by our students, in a more or less effective way. They do as such, mark three dimensions that

can directly and significantly potentiate (language) learning. Arguably, ten years from now when we have a more ubiquitous access to information (from, for example, wearable computers, facial recognition-based interactive screens everywhere, social spaces filled with embedded sensors), then the notions of “mobile”, “open” and “social” might be replaced by something else.

However, we argue that the mobile, open and social dimensions are significant at this moment in time, that they can be seen in the literature to act as means of improving learning effectiveness (e.g. [Hernández, Rodriguez, Hilliger and Pérez-Sanagustín, 18]; [Nguyen, 15]; [So, 16]), and that they have key affordances for how languages can be learnt. This is why we are interested in combining them into a single complementary paradigm, which we call MOSL4L (Mobile Open Social Learning for Languages). In this article these dimensions of learning are characterized and analyzed, together with a view of how they can be combined into a single language learning paradigm, and how the value of such a paradigm might be tested in practice.

2 Mobile learning for languages

In this section we consider the application of mobile technologies in formal and informal contexts of learning and in relation to notions such as mobility and autonomy. There are different conceptions of ‘mobile learning’, which means that there is no single definition that is appropriate for all contexts. However, two complementary approaches can be identified. On the one hand, mobile learning is very strongly associated with the use of mobile phones and other portable devices such as tablets, and more recently wearables such as smart watches. This first conception of mobile learning emphasizes the diverse features of these phones and devices and how they support multiple media and different modes of communication. It might also emphasize personal ownership, convenience and how learners are enabled to create, share and interact with content, and to be in contact with people. Another conception of mobile learning focuses particularly on learners’ movements in space and time, especially their movements across different contexts or settings (e.g. classroom and outdoors), and the potential benefits of learning in different places or making connections on the move. A widely quoted definition of mobile learning suggested by [Crompton, 13] combines elements of both perspectives by stating that mobile learning is “learning across multiple contexts, through social and content interactions, using personal electronic devices” (p.4).

Languages are acquired and learnt in a variety of places, in classrooms, in everyday life and at work, through formal instruction as well as through informal listening, watching, reading, talking and writing. Use of a smartphone adds to the repertoire of possibilities. When learners are taking photos on their phones, making videos and recordings, playing games or using social media, they are broadening the scope for observing language, capturing how it is used and getting more practice. Place, time and variety of activity are increasingly aspects that are under the learner’s control [see Kukulska-Hulme, 12]. Learners, however, do not necessarily have well-developed abilities to self-regulate and to exercise self-control. Unresolved tensions around learner autonomy and the risks of excessive or inappropriate technology use [see Radesky, Eisenberg, Kistin, Gross, Block, Zuckerman and Silverstein, 16] currently

threaten and destabilize the onward development of mobile learning, particularly when young learners are involved.

Mobile language learning, or mobile-assisted language learning (MALL), was first conceived as an extension of computer-assisted language learning. Seen in this light, mobile technologies are tiny portable computers, and what the learners use them for is some version of what they would do on a desktop computer. At a time when this conception still prevailed, [Kukulska-Hulme and Shield, 08] explained how mobile language learning was different: it involved the use of personal, portable devices enabling new ways of learning that emphasized continuity or spontaneity of access, and interaction across different contexts of use. This was in line with views espoused by the wider community of mobile learning researchers who recognized that what mattered above all was the mobility of the learner [see Sharples, 06]. More than a decade has elapsed, and current conceptions are more likely to recognize the specific or unique characteristics and potentials of mobile learning, including its alignment with collaborative learning, personal goal setting, location-relevant and situated learning, and regulation of learning through prompts and nudges.

With access to the Internet and to an abundance of mobile apps, many language learners currently take advantage of alternatives to formal language learning, such as watching foreign movies, listening to foreign-language radio, playing language games, reading blog posts and watching videos, according to their personal interests and preferences. Many have opportunities to “pick up” a language through everyday use of mobile devices for a range of purposes aligned to their lives and particular needs; for example, using apps to access services such as accommodation rental and taxi bookings while travelling abroad. Consequently, [Jarvis and Achilleos, 13] suggested a different term and acronym, mobile assisted language use (MALU), to emphasize the use of a target language as opposed to simply learning it.

The literature contains a wide range of studies demonstrating the benefits of applying mobile learning to languages, for example, [Burston, 15] presents a meta-analysis of learning outcomes in MALL and found positive results in studies focusing on reading, listening and speaking. [Kim, 14] presents data supporting the use of mobile devices for improving English reading comprehension, while [Read and Kukulska-Hulme, 15] present a mobile app that encourages listening comprehension. [Noriega, 16] presents data supporting the use of mobile learning to improve written production. [Arús Hita, 16] shows how methodological support can make mobile access to an online language-learning course effective even is the course has not been specifically developed for mobile deployment. Finally, [Pellerin, 14] presents a study of the use of mobile technology to promote oral language production. However, whether it be MALL or MALU, the devices must be used to access certain types of educational resources in specific ways for them to be effective in realizing the potential of MOSL4L. This will be considered in more detail in the next sections.

3 Open learning for languages

Open learning can be defined as the type of learning that involves open technology, open content, and/or open knowledge, and forms part of the general area of open education [see Brown, 08]. The use of open content and knowledge predates the development of any educational technology that can be used to distribute and build

upon them. One of the earliest and most widely known combination of all three elements is the MIT OpenCourseWare initiative, that combined open knowledge into open courses, which were distributed on the open software platform OCW, and was first released in 2002 [see Vest, 04]. At the same time, the term “Open Educational Resource” (OER) was termed at a UNESCO forum as a final declaration (see [UNESCO, 02] page 30) to extrapolate ideas about content introduced in the OCW initiative so that they can be referred to in a more universal way.

Since then, the presence of OER in the academic literature has been constant over the years, and particularly prevalent in research on language learning. For example, according to an academic search engine, there have been almost 1000 articles published since 2002 on OER. The obvious advantage of such resources is that there is no associated cost to their access or use. This is perhaps only part of a larger issue of “permissions” of the way in which such resources can be used, referred to by [Wiley and Hilton, 18] as the 5Rs. These refer to: “retain” (to make one’s own), “reuse” (to use in a range of ways), “revise” (to adapt, adjust, and modify), “remix” (to combine with other content to create something new), and “redistribute” (to share). Arguably, the flexibility that the 5Rs provide is of great relevance to language learners who need not only to access content in the target language for oral and written comprehension, but also to repurpose it as part of the corresponding production. This may be the case for other types of learning, but it is definitely the case here for language learning, since the target language resources can be both the “content” of the learning activity and also the “channel” used for communication (e.g., when learners are invited to comment on content or to repurpose it, using the target language).

While research on OERs and open education in general has focused on a range of issues, from, for example, technological frameworks, through to pedagogical models, one particular area has grown far more than the rest, i.e., Massive Open Online Courses (MOOCs). This can be illustrated by using the Web of Science as a reference, for a search undertaken between 2014 to 2018 on “Open Education”, which reveals 529 articles, or on “Open Educational Resources”, which reveals 118 articles, and finally on “MOOC”, which reveals 2,805 articles. The term was first coined by Dave Cormier in 2008 [Daniel, 12], and the popularity of this open educational phenomena is as [Downes, 12] argues, that MOOCs combine the advantages of open content and open learning, training and personal development, for a large number of students. MOOCs have been applied to most areas of knowledge, if not all, and the first Language MOOC (LMOOC) appeared in Spain 2012 [see Bárcena, Martín-Monje and Castrillo, 14]. Since language learning combines skill acquisition and knowledge assimilation, for an LMOOC to be effective, it must combine appropriate materials, activities and infrastructure [see Bárcena, 09; Read, 15]. In these courses, open learning can be seen to be potentiated thanks to the open technology used for the MOOC platform and related tools, the open content present for students to use without restrictions, and also the open knowledge contained in the materials and activities.

It has been argued in the literature that only a specific type of MOOC (namely, connectivist MOOC), based upon principles of learning communities with active users contributing to content generation and constructing knowledge, really potentiate open learning [see Daniel, 12; Morrison, 2013]. However, it is argued here that any type of LMOOC, where open content and knowledge is included and freely manipulated by students, can potentiate open learning by facilitating the 5Rs. Such learning moves from comprehension to production as the open content is repurposed and used by the students

in the course. For example, the original materials presented in the LMOOC can be used in the activities, analyzed, summarized, and combined with original content developed by the students, and subsequently submitted as written reports, oral presentation, or video interactions, all undertaken in the target language. While the reuse of content can be identified in LMOOCs where effective language learning takes places, it should be noted that the 5Rs are not all possible in most of these courses. Content is often provided in restricted formats, with limited licensing, thereby limiting the types of interaction possible.

In the same way as the literature supports mobile language learning, open learning is also reported to support language learning [see Anzai, 11; Comas-Quinn and Fitzgerald, 13; Dixon and Hondo, 14). However, while the open nature of the technology, content and knowledge, is a facilitating factor in potentiating language learning, there is another factor that is present in MOOCs, leading to their popularity and the flexibility of access and commitment that they offer. Unlike other initiatives based on OERs, the essential learner-centeredness and social orientation of these courses are also found to be both stimulating and rewarding by the students. Such interaction forms the basis of what can be defined to be social learning, which is complementary to both mobile learning and open learning and is considered in the next section.

4 Social learning for languages

Social learning can be traced back to the work of [Bandura, 71], which identifies learning not only with individual cognitive processes but also those that take places in a social context, where observation or direct instruction can influence the process. It is built upon behavioural learning since it also notes the importance of rewards and punishments to help establish effective behaviour. [Bandura, 72] further refines the theory to highlight the importance of four mental processes: firstly, attention, where concentration on the observed behaviour is key in order to learn from what is happening. Secondly, retention, where the internalization or remembering of what has been observed in the successful behaviour is essential for learning to take place. Thirdly, reproduction, in the sense of both cognitive and sensorimotor processes, necessary to repeat the observed behaviour. Fourthly and finally, motivation, where the expectations of the observer are important to reproduce what has been observed.

Social learning was originally conceived to explain face-to-face learning situations where the observational and interactional processes took place for people in the same place and time. When the Internet and the web gave rise to online interaction, social learning could be argued to take place there. Furthermore, the available tools and resources present in online learning scenarios, can influence how learning takes place, not just in terms of what is being observed and learnt, but also how the observations and learning is taking place. Social learning theory has not just been extended to incorporate online learning but has also been re-contextualized. For example, Connectivism [see Siemens, 2005], is a type of social learning that places the emphasis on the role of the network, not just as a physical reality to connect computers with information to users, but also as a metaphor of how nodes (neuronal, internal conceptual and external) and connections between them give rise to knowledge representation, retrieval and learning.

[Hill, Song and West, 09] note that there has been considerable research undertaken on the integration of tools and resources to support social interaction in online courses, where the resources can be used in different ways to reflect different learning styles, goals, and preferences. They also note that, while different types of audio and visual materials can be made available, the most common ones are textual, which may be difficult for students to use in online social interactions to gain appropriate feedback. For example, it may be that no facial expressions are available (there is no video) or other forms of non-verbal communication. However, while the lack of face-to-face interaction may limit opportunities for social learning, the ease of access and permanence of both the textual materials and the associated comments provided on them by both teachers and students, can compensate to some degree, making them an effective learning resource (especially if as argued above, the resources are OER). Furthermore, as the interaction might not take place in real-time, the delay in accessing a resource and commenting on it and receiving feedback on the comments, may allow more time for people to reflect [see Vonderwell, 03].

The literature supports the use of social learning for languages with studies such as those by [Gerami and Baighlou, 11], [Murphy, 11], and [Murray and Fujishima, 13]. It should be noted that the social interaction around a given learning resource is important to potentiate its use and incorporation into effective learning processes. As [Hill, Song and West, 09] point out, just making the resources available is not enough for successful engagement and subsequent learning to happen. Drawing together threads from the previous sections, the authors argue that for such social interaction to be effective, the resources being used must be freely accessible and open to reuse (i.e., OER), and the social interaction is available for students from their mobile devices; in that case, principles from MALL and MALU both apply.

5 The case for an integrated framework

The previous three sections have included a summary and analysis of each learning paradigm applied individually to languages. As was noted, typical articles in the literature demonstrate the benefits of each, in that experimentally, they produce statistically significant improvements in the language competences targeted. Other studies provide evidence for different kinds of benefits such as increased ability to self-regulate learning or opportunities to catch up with peers.

The literature also reflects a partial overlap of the three paradigms. For example, some social network activities for language learning are undertaken from mobile devices [Al-Shehri, 11], and similarly, some open educational resources are used in social learning [see Toetenel, 14]. However, it should be noted that not all three are systematically combined to potentiate language learning in a coordinated and structured fashion. The combination of these three types of learning into MOSL4L, is illustrated in figure 1(A).

It is not the authors' intention to argue that these three learning paradigms reflect the only way to structure and quantify effective language learning, since, for example, no reference is made to factors such as cognition and metacognition, amongst others. The argument being presented here is that they do highlight key factors, such as learning while mobile, access to information in an open way (permitting its reuse and not just its use as a passive resource), and the need for social interactions as part of the

learning scenarios, that can be argued to be important when structuring effective language learning experiences. As noted in the introduction, the point of this exercise is to identify characteristics that should be present in second language learning scenarios, to potentiate their effectiveness.

For this objective to become a reality, it is necessary to characterize each of the types of learning, in such a way that it is possible not only to define a learning activity as using ‘mobile learning’, for example, but more specifically, identify what is actually mobile in the activity. Is it the access to the activity that is undertaken from a mobile device? Is there a particular task within the activity that requires mobility by a student? Similarly, we must ask exactly how open approaches (OER, MOOCs) and social network experiences are designed for a learning scenario so that they support learning. As has been noted by many educational researchers, “it is learners’ uses(s) of the tool in pedagogical tasks that will impact learning” [Fuchs and Snyder, 13, page 117].

In order to undertake this characterization, a suitable framework is useful for this process that can structure the analysis and enable it to be done in a consistent way for different learning scenarios. Such a framework could be provided by the Activity Theory Model [Engström, 99], that has been used for more than 30 years to explore the relationship between humans and technology. A suitable juxtaposition of MOSL4L in this model is presented in figure 1(B). The uppermost triangle highlights the relationship between the subjects, the OERs, and the mobile tools used for interaction between them. Adapting [Bedny and Karwowski, 04], it can be argued that the subjects represent the individuals or groups that engage in actions with the OERs following goals to produce outcomes. The mobile tools mediate the activities. The rules define norms and conventions that inherently guide the actions [Jonassen and Rohrer-Murphy, 99]. The social learning community enables the subjects to coordinate activities and share the OERs [see Bedny and Karwowski, 04]. The division of labour specifies the allocation of roles and responsibilities and defines how activities are divided between communities and subjects.

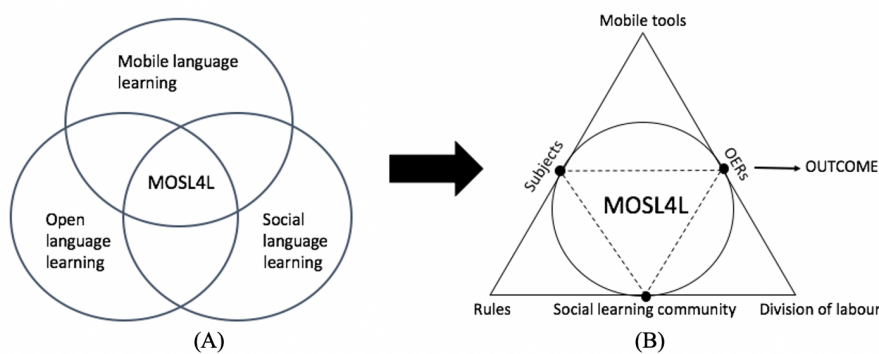


Figure 1: Characterizing the MOSL4L framework using Activity Theory

Given this framework for MOSL4L, it is possible to consider how it could be used, whether it can be tested and falsified, and how it might be improved. The easiest way to explore this paradigm would be to construct a rubric that enables language learning

scenarios to be analyzed in terms of the constituent parts that define their nature and enable the causal relations with learning to be highlighted. There are two ways to do this: firstly, analyze existing literature in terms of the elements presented here, and secondly, propose new scenarios which enable the different characteristics and types of learning to be combined and eliminated in a systematic fashion. The former activity would possibly shed some light on how and why previous research on language learning has achieved the results that it has produced. It might also suggest ways in which the experiments could be improved. The latter activity perhaps represents the litmus test for MOSL4L. If an experiment were constructed that allowed the different characteristics of the language learning scenario to be added or removed for different groups, for example, whether the activities are undertaken from mobile devices, without constraints of place and time, and whether they are undertaken from desktop computers when they are available. Similarly, where the education resources used in the learning activities are open to the 5Rs, and finally, the degree to which social interaction and group activities are involved. Such an ambitious but feasible series of experiments could enable MOSL4L to be tested, possibly falsified, and probably improved. They would give due consideration to the fact that language learning encompasses knowledge and skills at many levels, for many different purposes, among learners who have varying motivations, abilities and preferences. The aim would be to find evidence for the MOSL4L combination accelerating or improving learning.

If MOSL4L could be identified as a language learning accelerator or an approach that will make language learning more effective, then what could we do with it? Arguably it could be presented as a guide for language teachers who are looking for ways to improve language learning, either in face-to-face classes or online courses. Furthermore, the characteristics identified in the previous experiments and analyses, would probably not be only applicable in a black-or-white sense, i.e., that an activity is either mobile or not. There would surely be shades of grey related to such application so that degrees of mobility could be present in a given scenario, or alternatively, the mobile activities would have a series of affordances and related difficulties and costs (either financial costs or disadvantages). Whether it was worthwhile for a given teacher to use them would depend upon the cost-benefit relation.

6 Conclusions

In this article three types of learning have been presented as being particularly relevant for languages, as can be seen by their impact in the literature, namely mobile, open and social learning. A brief analysis has been undertaken of each one, including evidence from the literature that would appear to demonstrate their effectiveness for language learning. It has been noted that there is a partial overlap of the three paradigms in the literature, and that it is reasonably common to find two of them combined into a single documented learning scenario. However, the authors note that not all three are systematically combined to potentiate language learning in a coordinated and structured fashion. Subsequently, a proposal is made to combine them into a single framework called Mobile Open Social Learning for Languages (or MOSL4L). It is then characterized using Activity Theory and some suggestions are made for establishing a rubric that could enable language learning scenarios to be analyzed in terms of the

constituent parts that define their nature and enable the causal relations with learning to be highlighted.

This work represents what is really the first step in identifying how language learning can be potentiated. MOSL4L was developed since both the authors' experience and the academic literature suggest that the three types of learning presented here are particularly relevant. However, once the paradigm has been explored and applied it can always be extended. For example, it is generally accepted that different forms of cognitive and meta-cognitive scaffolding can help language learning. Would this current paradigm be improved by adding such scaffolding? Furthermore, improvements can be also obtained by structuring the learning scenarios into a task-based approach. Would such an approach improve learning? These questions are almost endless since new factors can always be included. However, MOSL4L was developed since the types of learning included are particularly effective, and as such, represent a valid starting point for future research.

Finally, while the authors believe that MOSL4L might represent an effective conceptual level for identifying the causal relations that potentiate language learning, it may be the case that a radically different approach to the problem is required. [Traxler, Read, Kukulska-Hulme and Barcena, 19] start to explore this possibility and lay the foundations for such a future endeavour.

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References

- [Al-Shehri, 11] Al-Shehri, S. Context in our pockets: Mobile phones and social networking as tools of contextualizing language learning. In Yu (ed.) *Proceedings 10th World Conference on Mobile and Contextual Learning (mLearn)*, 278-286 (2011). Retrieved February 9, 2019, from http://mlearn.bnu.edu.cn/source/Conference_Proceedings.pdf.
- [Anzai, 11] Anzai, Y.: Language Learning in Openness: Do Learners Perceive Open Instruction Enhances language Learning?. In C. Ho & M. Lin (eds.), *Proceedings of E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*. San Diego, CA: Association for the Advancement of Computing in Education (AACE), 1029-1033 (2011).
- [Arús Hita, 16] Arús Hita, J.: Virtual learning environments on the go: CALL meets MALL. In A. ParejaLora, C. Calle-Martínez, & P. Rodríguez-Arancón (Eds.), *New perspectives on teaching and working with languages in the digital era* (pp. 213-222). Dublin: Research-publishing.net (2016).
- [Bandura, 71] Bandura, A.: *Social Learning Theory*. New York: General Learning Corporation (1971).
- [Bandura, 72] Bandura, A.: Modeling theory: Some traditions, trends, and disputes. In Parke, R.D. *Recent trends in Social Learning Theory*. New York: Academic Press, Inc. (1972).
- [Bárcena, 09] Bárcena, E.: Designing a Framework for Professional English Distance Learning. In I.K. Brady (Ed.) *Helping People to Learn Foreign Languages: Techniques and Technologies* Murcia: Quaderna Editorial, 89–103 (2009).

- [Bárcena, Read, Martín-Monje and Castrillo, 14] Bárcena, E., Read, T., Martín-Monje, E., Castrillo, M.D.: Analysing student participation in foreign language MOOCs: a case study. In U. Cress & C. Delgado Kloos (eds.) *Proceedings of the European MOOCs Stakeholders Summit*, 11-17 (2014).
- [Bedny, G.Z. and Karwowski, 04] Bedny, G.Z., Karwowski, W.: Activity theory as a basis for the study of work, *Ergonomics*, 47:2, 134-153 (2004).
- [Brown, 08] Brown, J.S.: *Opening up education: The collective advancement of education through open technology, open content, and open knowledge*. MIT Press (2008).
- [Burston, 15] Burston, J.: Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, 27(1), 4-20 (2015).
- [Comas-Quinn and Fitzgerald, 13] Comas-Quinn A., Fitzgerald, A.: *Open Educational Resources in Language Teaching and Learning*. Higher Education Academy (HEA), York (2013).
- [Crompton, 13] Crompton, H. A Historical Overview of M-Learning: Toward Learner-Centered Education Through the study of recent histories. In Berge, Z.L. (ed.) *Handbook of mobile learning*. New York: Routledge. 41-52 (2013).
- [Daniel, 12] Daniel, J.: Making Sense of MOOCs: Musings in a Maze of Myth, Paradox and Possibility. *Journal of Interactive Media in Education*, 2012(3), Art. 18 (2012).
- [Dixon and Hondo, 14] Dixon, E.M., Hondo, J.: Re-purposing an OER for the online language course: a case study of Deutsch Interaktiv by the Deutsche Welle, *Computer Assisted Language Learning*, 27:2, 109-121 (2014).
- [Downes, 12] Downes, S. Half an Hour: What a MOOC Does - #Change11. Half an Hour. Retrieved June 4, 2014, from <http://halfanhour.blogspot.com.es/2012/03/what-mooc-does-change11.html>
- [Drakidou, Pareja and Read, 18] Drakidou, C., Pareja, A., Read, T.: A survey on the state of the art of TELL: underlying conceptual components. In Read, T., Montaner-Viallalba, S., & Sedano Cuevas, B. (eds.) *Technological Innovation for Specialized Linguistic Domains. Languages for Digital Lives and Cultures. Proceedings of TISLID'18*, Mauritius: Éditions universitaires européennes, 215-228 (2018).
- [Engeström, 99] Engeström, Y.: Activity theory and individual and social transformation. In Y. Engeström, R. Miettinen, & R.-L. Punamaki-Gitai (eds.), *Perspectives on activity theory*. Cambridge, MA: Cambridge University Press, 19-38 (1999).
- [Fuchs and Snyder, 13] Fuchs, C., Snyder, B.: It's not just the tool: Pedagogy for promoting collaboration and community in social networking in CMC. In: Marie-Noelle Lamy and Katerina Zourou (eds.) *Social Networking for Language Education*. Basingstoke: Palgrave Macmillan, 117-136 (2013).
- [García Laborda, Magal Royo, Litzler and Gimenez Lopez, 14] García Laborda, J., Magal Royo, T., Litzler, M.F., Gimenez Lopez, J.L.: Mobile Phones for Spain's University Entrance Examination Language Test. *Journal of Educational Technology & Society*, 17(2), 17-30 (2014).
- [Gerami and Baighlou, 11] Gerami, M.H., Baighlou, S.M.G.: Language learning strategies used by successful and unsuccessful Iranian EFL students. *Procedia-Social and Behavioral Sciences*, 29, 1567-1576 (2011).
- [Hernández, Rodríguez, Hilliger and Pérez-Sanagustín, 18] Hernández, J., Rodríguez, M. F., Hilliger, I., Pérez-Sanagustín, M.: MOOCs as a remedial complement: Students' adoption and learning outcomes. *IEEE Transactions on Learning Technologies* (2018). (Early access) Retrieved February 9, 2018, from <https://ieeexplore.ieee.org/document/8350289>

- [Hill, Song and West, 09] Hill, J.R., Song, L., West, R.E.: Social Learning Theory and Web-Based Learning Environments: A Review of Research and Discussion of Implications. *American Journal of Distance Education*, 23:2, 88-103 (2009).
- [Hill, Song and West, 09] Hill, J.R., Song, L., West, R.E.: Social Learning Theory and Web-Based Learning Environments: A Review of Research and Discussion of Implications. *American Journal of Distance Education*, 23:2, 88-103 (2009).
- [Jarvis and Achilleos, 13] Jarvis, H.A., Achilleos, M.: From computer assisted language learning (CALL) to mobile assisted language use. *Tesl-Ej*, 16(4), 1-18 (2013).
- [Jonassen and Rohrer-Murphy, 99] Jonassen, D.H., Rohrer-Murphy, L.: Activity theory as a framework for designing constructivist learning environments. *Educational Technology Research and Development*. 47(1), 61-79 (1999).
- [Kim, 14] Kim, H-S.: Effects of using mobile devices in blended learning for English reading comprehension, *Multimedia-Assisted Language Learning*, 17(2), 64-85 (2014).
- [Kukulska Hulme 12] Kukulska Hulme, A.: Mobile Assisted Language Learning. In C.A. Chapelle (ed.) *The Encyclopedia of Applied Linguistics*, Chichester: Blackwell, 3701-3709 (2012)..
- [Kukulska-Hulme and Shield, 08] Kukulska-Hulme, A., Shield, L.: An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(3), 271-289 (2008).
- [Morrison, 13] Morrison, D.: *The Ultimate Student Guide to xMOOCs and cMOOCs* (2013). Retrieved February 9, 2018, from <http://moocnewsandreviews.com/ultimate-guide-to-xmoocs-and-cmoocso>
- [Murphy, 11] Murphy, L.: I'm not giving up! Maintaining motivation in independent language learning. In Morrison, B. (ed.) *Independent language learning: Building on experience, seeking new perspectives*, Hong Kong: Hong Kong University Press, 73-85 (2011).
- [Murray and Fujishima, 13] Murray, G, Fujishima, N. Social Language Learning Spaces: Affordances in a Community of Learners. *Chinese Journal of Applied Linguistics*, 36(1), 141–157 (2013).
- [Nguyen, 15] Nguyen, T.: The effectiveness of online learning: Beyond no significant difference and future horizons. *MERLOT Journal of Online Learning and Teaching*, 11(2), 309-319 (2015).
- [Noriega, 16] Noriega, H.S.R.: Mobile learning to improve writing in ESL teaching. *Teflin Journal*, 27(2), 182-202 (2016).
- [Pellerin, 16] Pellerin, M.: Using Mobile Technologies with Young Language Learners to Support and Promote Oral Language Production. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 4(4), 14-28 (2014).
- [Radesky, Eisenberg, Kistin, Gross, Block, Zuckerman and Silverstein, 16] Radesky, J. S., Eisenberg, S., Kistin, C. J., Gross, J., Block, G., Zuckerman, B., Silverstein, M.: Overstimulated consumers or next-generation learners? Parent tensions about child mobile technology use. *The Annals of Family Medicine*, 14(6), 503-508 (2016).
- [Read and Kukulska-Hulme, 15] Read, T., Kukulska-Hulme, A.: The Role of a Mobile App for Listening Comprehension Training in Distance Learning to Sustain Student Motivation. *Journal of Universal Computer Science*, 21(10), 1327–1338 (2015).

[Read, 15] Read, T.: The architectonics of language MOOCs. In E. Martín-Monje & E. Barcena (eds.), *Language MOOCs: Providing Learning, Transcending Boundaries*. Berlin: de Gruyter, 91-105 (2015).

[Sharples, 06] Sharples, M.: Big issues in mobile learning. Report of a workshop by the Kaleidoscope Network of Excellence Mobile Learning Initiative. Nottingham: LSRI, University of Nottingham (2006).

[Siemens, 05] Siemens, G. Connectivism: A learning theory for the digital age, *International Journal of Instructional Technology and Distance Learning* 2 (10)(2005). Retrieved February 9, 2019, from http://itdl.org/Journal/Jan_05/article01.htm

[So, 16] So, S.: Mobile instant messaging support for teaching and learning in higher education. *The Internet and Higher Education*, 31, 32-42 (2016).

[Toetenel, 14] Toetenel, L.: Social networking: a collaborative open educational resource, *Computer Assisted Language Learning*, 27:2, 149-162 (2014).

[Traxler, Read, Kukulska-Hulme and Barcena, 19] Traxler, J, Read, T; Kukulska-Hulme, A., Barcena, E. Paradoxical paradigm proposals - Learning languages in mobile societies. *Argentinian Journal of Applied Linguistics (AJAL)*, 7(2) pp. 89–109 (2019).

[UNESCO, 02] UNESCO: Forum on the Impact of Open Courseware for Higher Education in Developing Countries (2002). Final report. <https://unesdoc.unesco.org/ark:/48223/pf0000128515>.

[Vest, 04] Vest, C.M.: "Why MIT decided to give away all its course materials via the Internet". *The Chronicle of Higher Education*, 50(21) (2004).

[Vonderwell, 03] Vonderwell, S.: An examination of asynchronous communication experiences and perspectives of students in an online course: a case study. *Internet and Higher Education*, 6(1), 77-90 (2003).

[Wiley and Hilton, 18] Wiley, D., Hilton III, J.L.: Defining OER-enabled pedagogy. *International Review of Research in Open and Distributed Learning*, 19(4) (2018).